Human Cloning: To clone or not to clone??

WebQuest Description: Human cloning is arguably the biggest medical advancement of this century! However it is also undoubtedly one of the medical industries largest ethical dilemmas of the century, with politicians, religious organisations and lawyers from around the world weighing in on the debate- To clone or not to clone???

Grade Level: 9-12

Curriculum: Social Studies

Keywords: HSIE, Legal Studies, Ethics, Human Cloning, Australia, Global, Legal Implications, Controversial, Individuals, Medical

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Introduction

Have you seen the movie 'My Sisters Keeper' or 'Gattaca' or read the book 'Never Let Me Go'? The titles of these publications are very clever in that they do not reveal the story behind them. What images does the title 'Never Let Me Go' conjure up in your mind? For me, it sounds like some hopeless, romantic love story where one of the characters is desperately trying to hang on to a loved one! However, this couldn't be further from the story line- 'Never Let Me Go' is a story about Human Cloning!

Have you heard of Christopher Reeve aka Superman and his story? Check out his foundation below! Cloning first seriously burst onto the international debate forum with an announcement from the Roslin Institute in Midlothian, Scotland in 1997;&nbsp; claiming they had successfully cloned a sheep from an adult cell. Dolly the sheep, was born in July 1996 and died in 2003 aged six.&nbsp; When Dolly was cloned in 1996 from a cell taken from a six-year-old ewe, she became the centre of much controversy that continues to exist today. While scientists and the medical industry claimed the discovery was a significant advancement for mankind, &nbsp; politicians, churches and the legal profession began trembling with fear. The implications for life as we know it;&nbsp; today had changed forever. The Pope promptly condemned the so called 'breakthrough' claiming that 'medical methods that fail to respect the dignity and value of the person must always be avoided... I am thinking in particular of attempts at human cloning ... are not morally acceptable, even when their goal is good in itself';&nbsp; Similarly, the legal profession have weighed heavily into the cloning debate. &nbsp; In Australia several pieces of legislation have been implemented to ensure those individuals or organisations that use gene technology are appropriately regulated and licensed. The Prohibition of Human Cloning for Reproduction Act 2002 (Ct);&nbsp; was established after considerable ethical debate about the use of human embryos for medical procedures. The intent of this piece of legislation is to criminalise ANY activity which seeks to create human embryos for the purpose of cloning.

Tasks

As part of the preliminary legal studies course you are required to study as part 2 of the syllabus the topic The individual and the law. &nbsp; The principal focus of this section is for you as students to investigate the way in which the law impacts on individuals by referring to legal and non legal institutions, laws and media reports. A contemporary issue that must be examined is that of the Individual and Technology. Specifically you are required to investigate the impact technology has on the individual, its legal implications, and difficulties with enforcing rights and an examination of the future direction with respect to the role of law reform. The topic of human cloning presents as a perfect and interesting example. Now that you are familiar with why you are looking at the contentious topic of human cloning, its time to discover WHAT you will be doing... Consider this... Both Scientists and some medical professionals state that therapeutic cloning can cure diseases!!! If this is true should we as a society be doing everything possible to help the sick? Is legislation preventing us from saving our loved ones?? Your task is to investigate and gain a deep understanding of the scientific and medical processes involved in human cloning also known as stem cell research. Additionally you will also examine the current legislation governing human cloning both here in Australia and from a global perspective. As you undertake your investigation you will be required to keep in mind these two very important focus questions. 1. Is current legislation governing human cloning out of touch with the wider communities beliefs, values and morals? 2. What is the future direction for law reform in respect to human cloning for therapeutic purposes?? For an overview of the cloning debate watch the click view clip Test Tube babies and the youtube clip below.

Process

So what's all the cloning fuss about??. The focus questions for this webquest are:- Is the current legislation out of touch with the wider communities morals and values? What is the future direction for law reform with respect to human cloning and stem cell research?&nbsp; As a class we will watch the clickview movie Test Tube Babies to provide us with an overview and insight into the topic of human cloning. BEFORE YOU START THE WEBQUEST&nbsp; TASK &nbsp; Take the quick cloning quiz to see how much you understand about human cloning. Record your score out of 10. Be honest and don't cheat. Next split into groups of two and read below to find out what you are going to be doing. You are currently &nbsp; working for the NSW Premier;&nbsp; as office as policy advisors. The debate about human cloning has again become a highly contentious issue and as such The Premier has instructed you to prepare a report on the attitudes of the wider community towards therapeutic cloning. Tasks: 1. Conduct research into therapeutic human cloning also known as Stem cell research to gain a detailed understanding of the scientific and medical processes involved. Follow the links found in the background section below. Read the media articles below. 2. Research and analyse the current legislation governing human cloning in both Australia and the global perspective. Follow the links in the legislation review section below. 3. Create a survey form that can be used to examine public opinion in the school environment (teachers and senior students.
only) to gain the communities understanding and feelings towards human cloning. Visit the links in the Survey ideas and help section below to gather information. Create a pamphlet to accompany your survey that informs participants of the important information (include legal information) that maybe required for them to make an informed opinion. Be creative- use pictures, colours and fancy graphics to get your message across. Submit your survey and pamphlet to the google classroom. There are a number of resources for you to investigate below. Please ensure you read widely and consider different perspectives on the human cloning debate. You are also welcome to find additional resources if you wish. Happy investigating!!

### Evaluation

Your survey, pamphlet and individual report will be marked based on the criteria below.

<table>
<thead>
<tr>
<th>Category and Score</th>
<th>Beginning</th>
<th>Developing</th>
<th>Very Good</th>
<th>Outstanding</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>Developed a basic survey which sought to draw some opinion from the participant. More clear and decisive questions could be developed for future surveys. Question structure lacked decisiveness which made data collation and analysis difficult, and public opinions remain unclear.</td>
<td>Developed a reasonable survey which a number of questions prompting clear and decisive responses from participants. However more questions were required to ensure comprehensive data for drawing analysis of public opinion.</td>
<td>Developed a sound survey which the majority of questions prompting a clear and decisive response from participants. Minor issues with some questions made data collation and analysis difficult to gauge current public opinions on the issue.</td>
<td>Developed an excellent survey, which directed the participant to demonstrate their opinion towards the topic. Survey questions were clear and decisive which allowed for clear analysis of data to collate current public opinions of the issue.</td>
<td>30</td>
</tr>
<tr>
<td>Pamphlet</td>
<td>Pamphlet is basic and lacks detailed information on the topic. Does not make good use of graphics, images or colour and generally demonstrates lacks creativity.</td>
<td>Pamphlet has some detailed information and outlines a few advantages and disadvantages of the topic. Demonstrates some elements of creativity by using some basic graphics, images and colour.</td>
<td>Pamphlet provides sound information and lists majority of advantages and disadvantages of the topic. Makes use of graphics, images and colour to convey information and demonstrates sound creativity.</td>
<td>Pamphlet is exemplary. Provides outstanding information with detailed description of both advantages and disadvantages of the topic. It is extremely creative, demonstrates exceptional use of graphics, images and colour.</td>
<td>15</td>
</tr>
<tr>
<td>Individual report</td>
<td>Individual report demonstrates limited understanding of data analysis. It makes limited connections between data collated and current and future legislation requirements. Fails to discuss future law reform possibilities.</td>
<td>Individual report demonstrates developing understanding of data analysis. Makes reasonable connections between collated data and current and future legislation requirements. Provides limited discussion on the possibilities of future law reform.</td>
<td>Individual report demonstrates sound understanding of data analysis. Makes sound connections between collated data and current and future legislation requirements. Provides a reasonable discussion on the possibilities for future law reform.</td>
<td>Individual report demonstrates outstanding comprehension of data analysis. Demonstrates excellent understanding of current opinions with both current and future legislation requirements. Provides detailed discussion on the possibilities for future law reform.</td>
<td>50</td>
</tr>
<tr>
<td>Reference List</td>
<td>Fails to accurately all reference sources.</td>
<td>Some sources are referenced accurately.</td>
<td>Majority of sources are accurately referenced.</td>
<td>All sources are referenced accurately.</td>
<td>5</td>
</tr>
</tbody>
</table>

### Conclusion

Congratulations you have finished the webquest. Well done! So the question remains- Do we need human cloning legislation reform? No doubt some of the class will suggest current legislation is old and out of touch with the wider communities beliefs, morals and values, while others will claim the legislation is an accurate and true representation of the wider communities opinion. Nevertheless, human cloning remains a highly ethical and contentious issue. The point of this webquest was to develop your understanding and encourage you to become informed citizens on the topic. It is a central element of the Legal Studies course that you develop a sound understanding of the impact law has on individuals, be able to examine the relationship between justice, law and society and the importance of balancing the rights of the individuals with the needs of the state.

### Teacher Page

The webquest will need approximately 5- 6x 60 minute lessons to complete as there is a large amount of reading involved. Additionally...
the clickview movie Test Tube babies runs for approximately 1 hour. The web quest is designed to promote the use of higher order thinking skills and is aimed at providing students with a deep understanding of the topic.

**Standards**
This webquest was designed to fulfill the contemporary issue section in part 2 of the legal studies syllabus The Individual and the Law. Due to the nature of the topic though it is easily referenced to a number of other curriculum syllabi.

In addition this webquest fulfills the requirement of the civics and citizenship cross curricula theme.

Civics and citizenship in the HSIE and legal studies curriculum area centres on students developing sound knowledge and understandings of topics that relate to the outside world and for students to become informed and active members of society.

Legal Studies Preliminary Course

The Individual and Technology
3. Contemporary issue

Students learn about:
• impacts of technology on the individual
• legal implications
• difficulties with enforcing rights
• future directions – the role of law reform

Students learn to:
• explain the difficulties with enforcing rights
• assess the role of law reform in addressing emerging technological issues and enforcing rights
• discuss the legal implications of the use of technology and its impact on the individual.

Preliminary Course Outcomes
P1. identifies and applies legal concepts and terminology
P2. describes the key features of Australian and international law
P3. describes the operation of domestic and international legal systems
P4. discusses the effectiveness of the legal system in addressing issues
P5. describes the role of law in encouraging cooperation and resolving conflict, as well as initiating and responding to change
P6. explains the nature of the interrelationship between the legal system and society
P7. evaluates the effectiveness of the law in achieving justice
P8. locates, selects and organises legal information from a variety of sources including legislation, cases, media, international instruments and documents
P9. communicates legal information using well-structured responses
P10. accounts for differing perspectives and interpretations of legal information and issues

Cross curricula applications

English Preliminary Course Outcomes
Outcome 6 can be used to justify the discussion of concepts relating to ‘personal, social ... cultural contexts’ which works well for human cloning.

6. Students learn about the ways in which texts can be responded to by: 6.1 engaging with a wide range of texts in personal, social, historical, cultural and workplace contexts
6.2 relating responses to aspects of human experience
6.3 composing personal responses to texts and considering the responses of others
6.4 discussing and reflecting on the wider issues arising from their engagement with texts.

Outcome 7 can be used to justify composing a text in the non-standard text types you discussed.

7. Students learn to communicate information, ideas and values for a variety of purposes, audiences and contexts by:
7.1 identifying and describing the effects of language forms and features, and structures of particular texts
7.2 composing and adapting texts to address different purposes and audiences.

Science Preliminary Course Outcomes

P2 applies the processes that are used to test and validate models, theories and laws of science, with particular emphasis on first-hand investigations in biology
P3 assesses the impact of particular technological advances on understanding in biology
P4 describes applications of biology which affect society or the environment
P9 explains how processes of reproduction ensure continuity of species
P10 identifies and describes the evidence for evolution

General Mathematics Preliminary Course Outcomes

P1 develops a positive attitude to mathematics and appreciates its capacity to provide enjoyment and recreation
This webquest has been designed to meet the 3 components of the NSW Quality Teaching Pedagogy

1. Intellectual quality refers to pedagogy focused on producing deep understanding of important, substantive concepts, skills and ideas. Such pedagogy treats knowledge as something that requires active construction and requires students to engage in higher-order thinking and to communicate substantively about what they are learning.

2. Quality learning environment refers to pedagogy that creates classrooms where students and teachers work productively in an environment clearly focused on learning. Such pedagogy sets high and explicit expectations and develops positive relationships between teachers and students and among students.

3. Significance refers to pedagogy that helps make learning meaningful and important to students. Such pedagogy draws clear connections with students’ prior knowledge and identities, with contexts outside of the classroom, and with multiple ways of knowing or cultural perspectives.

Credits

Other